



METHOD AND APPARATUS FOR HIGH-SPEED MICROFLUIDIC...

Churchill et al.

Appl. No.: 10/765,001 Atty. Docket: BIODOT.028C1

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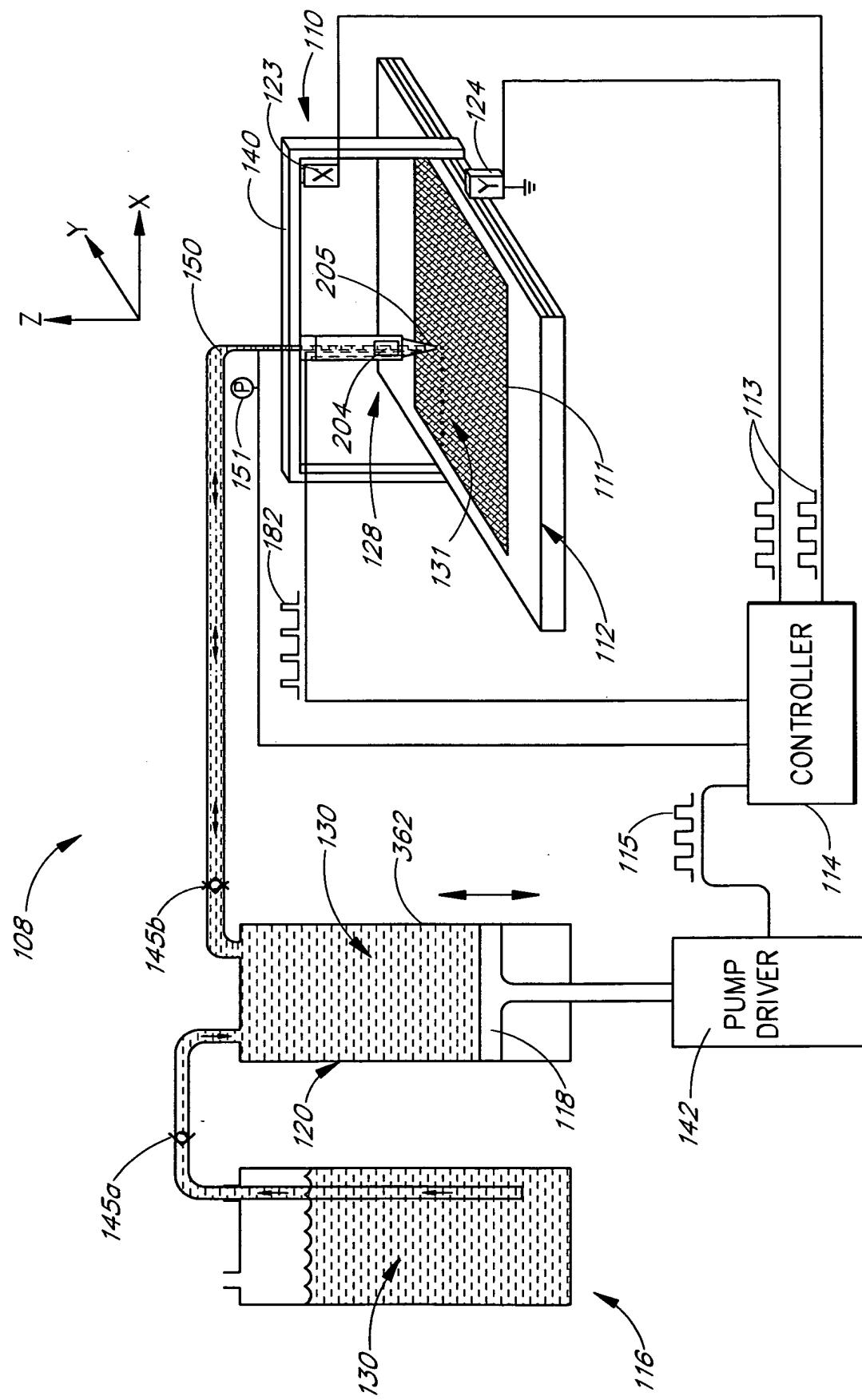
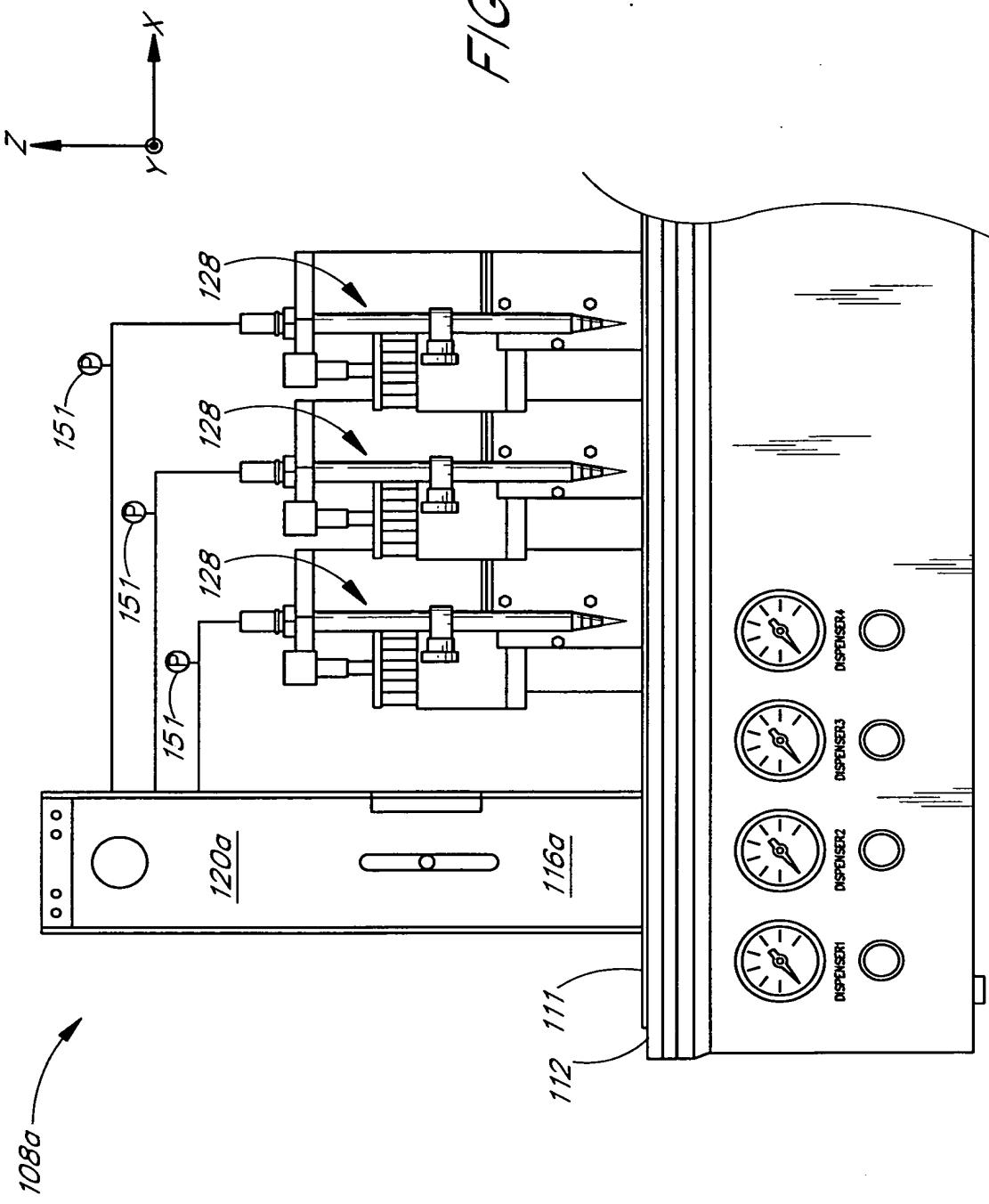


FIG. 1

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2A

FIG.



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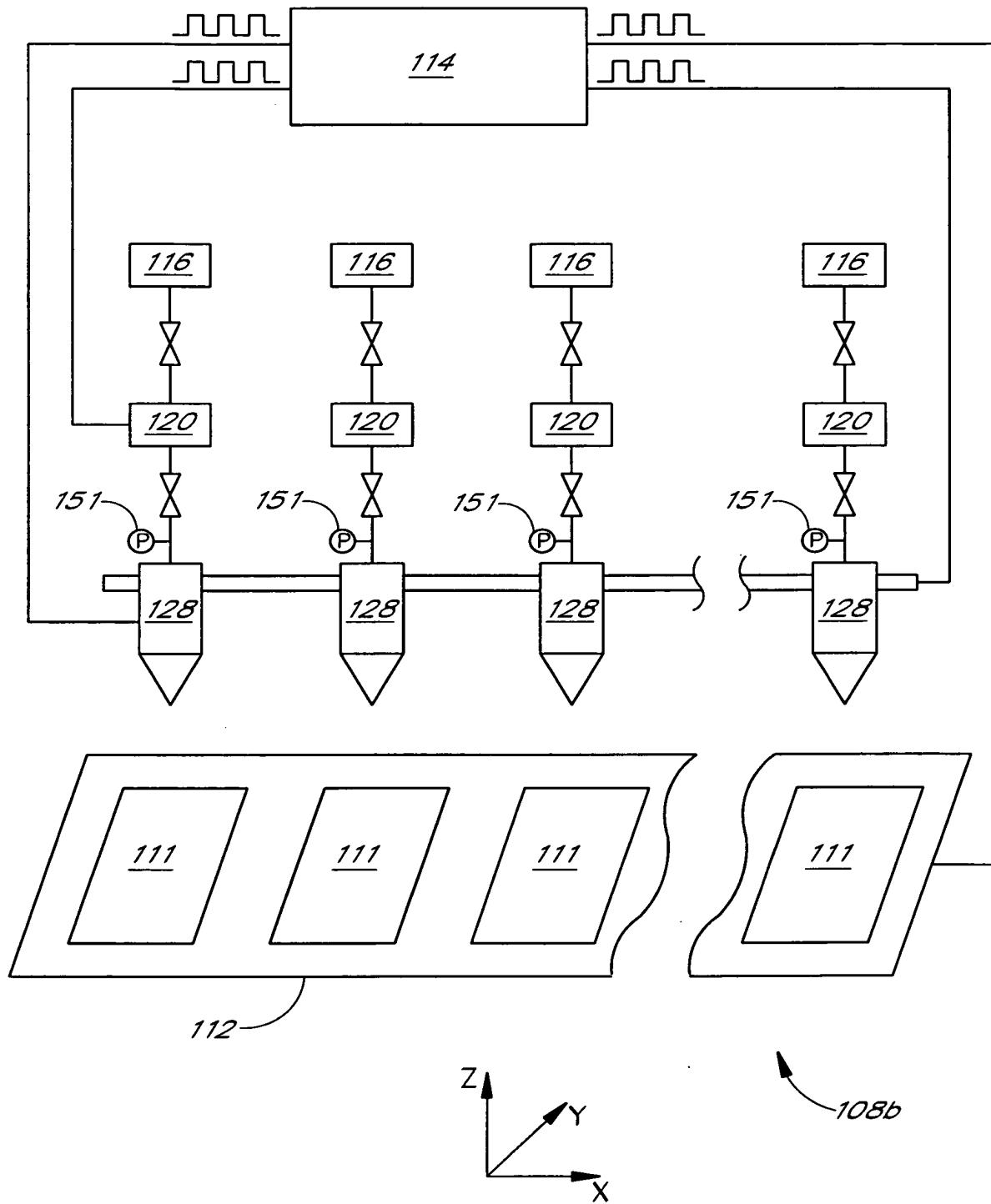


FIG. 2B

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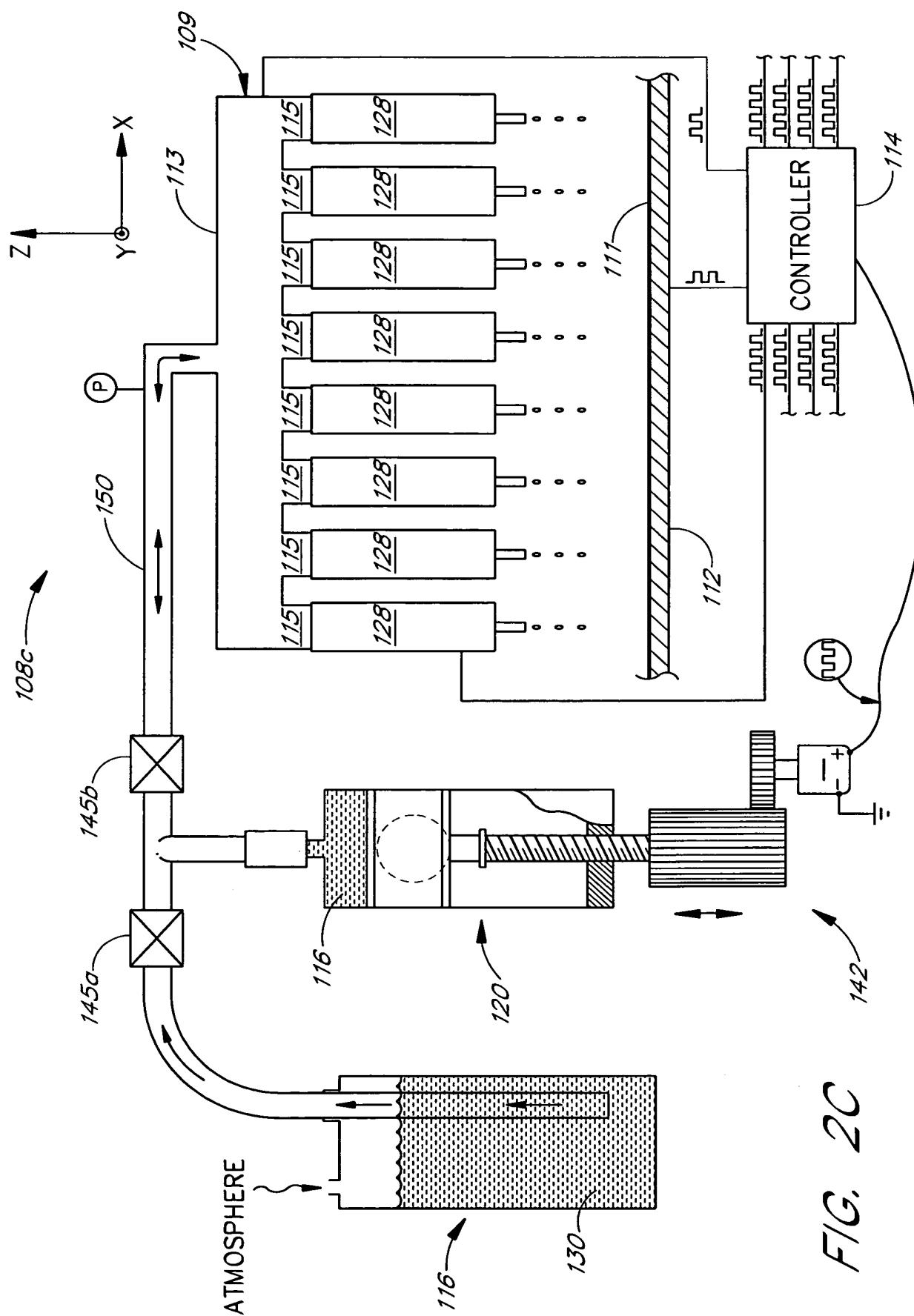


FIG. 2C

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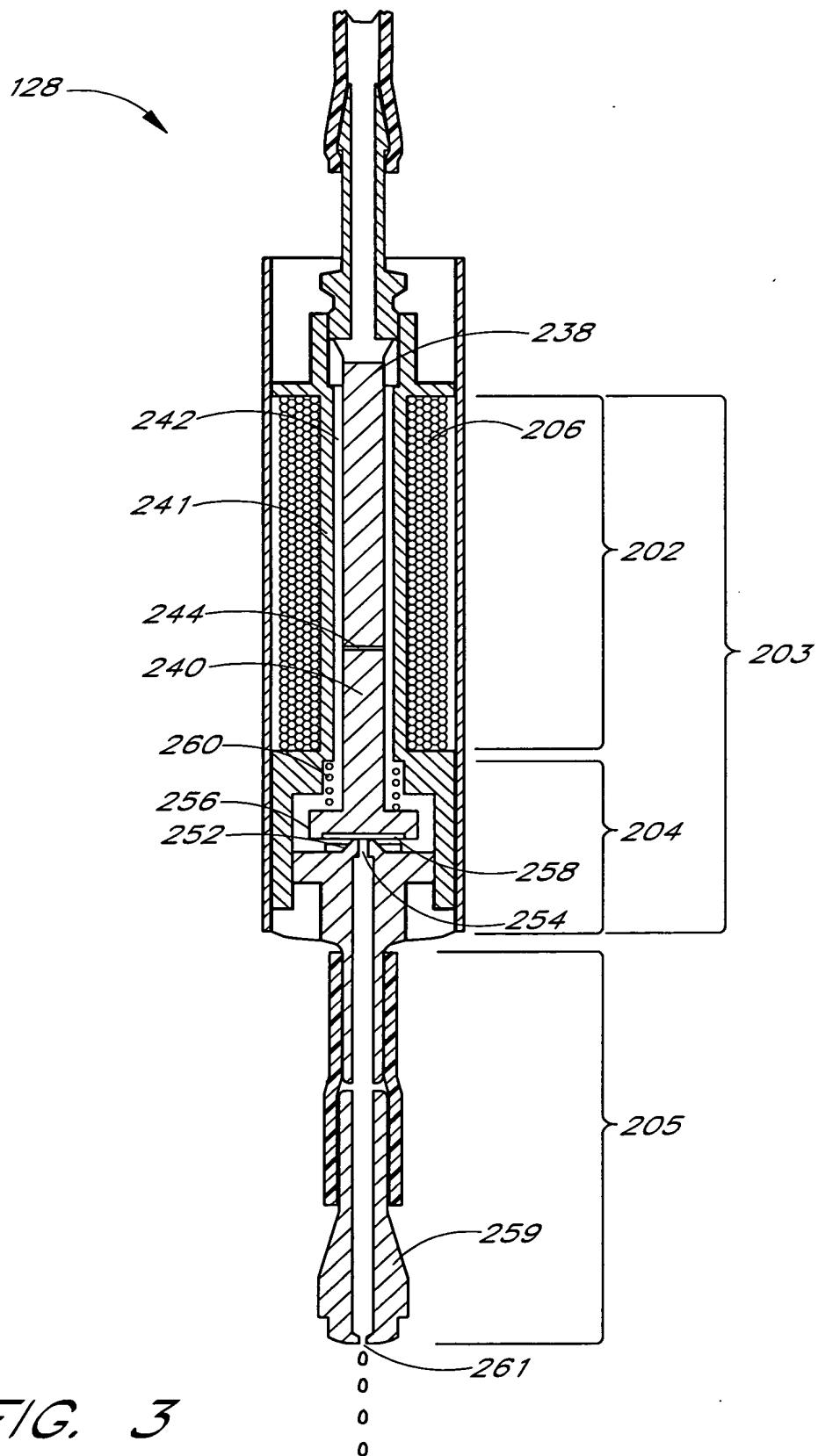


FIG. 3

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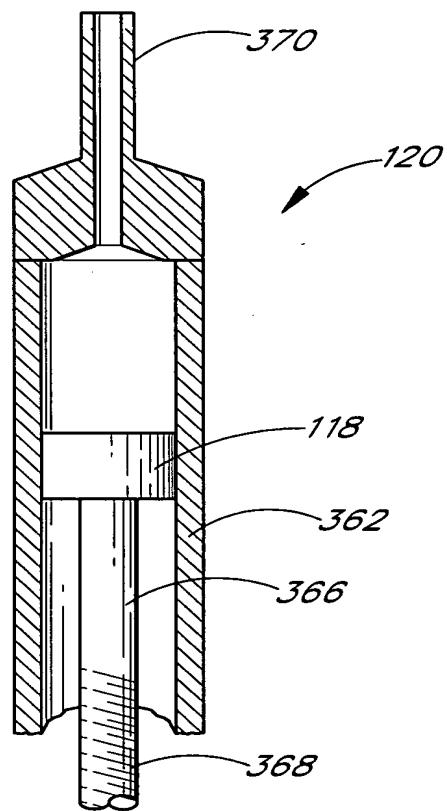


FIG. 4

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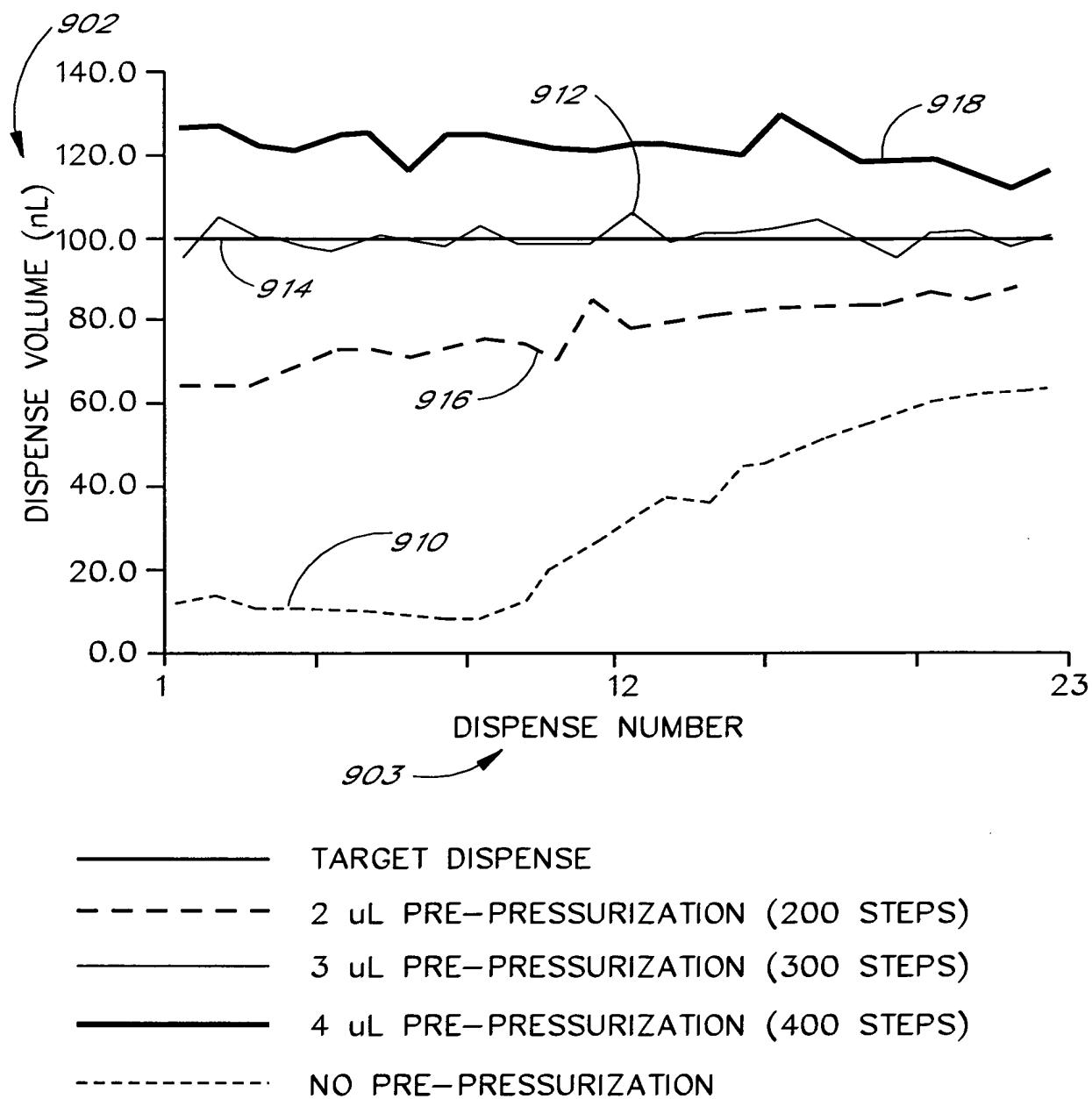


FIG. 5

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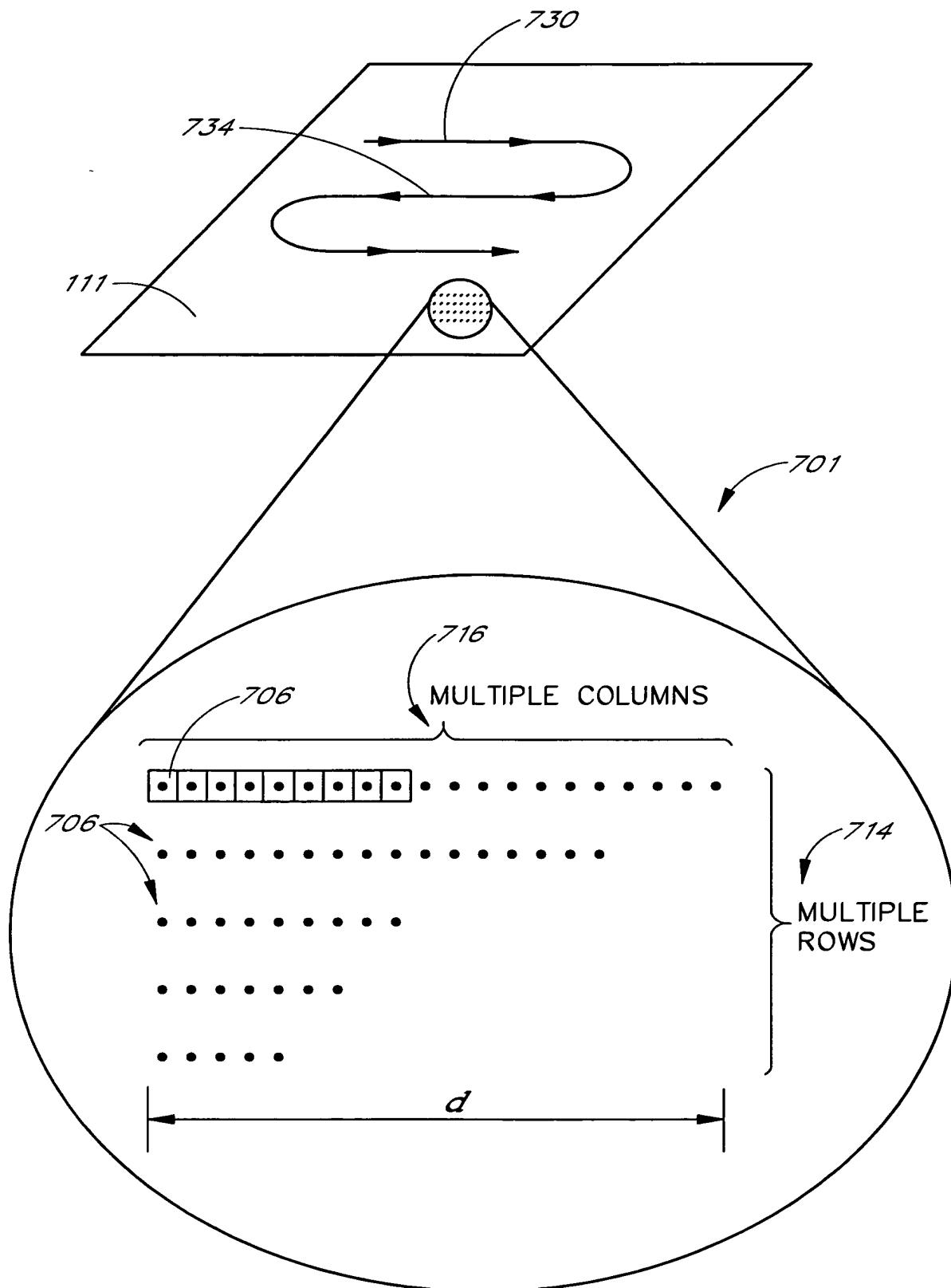


FIG. 6

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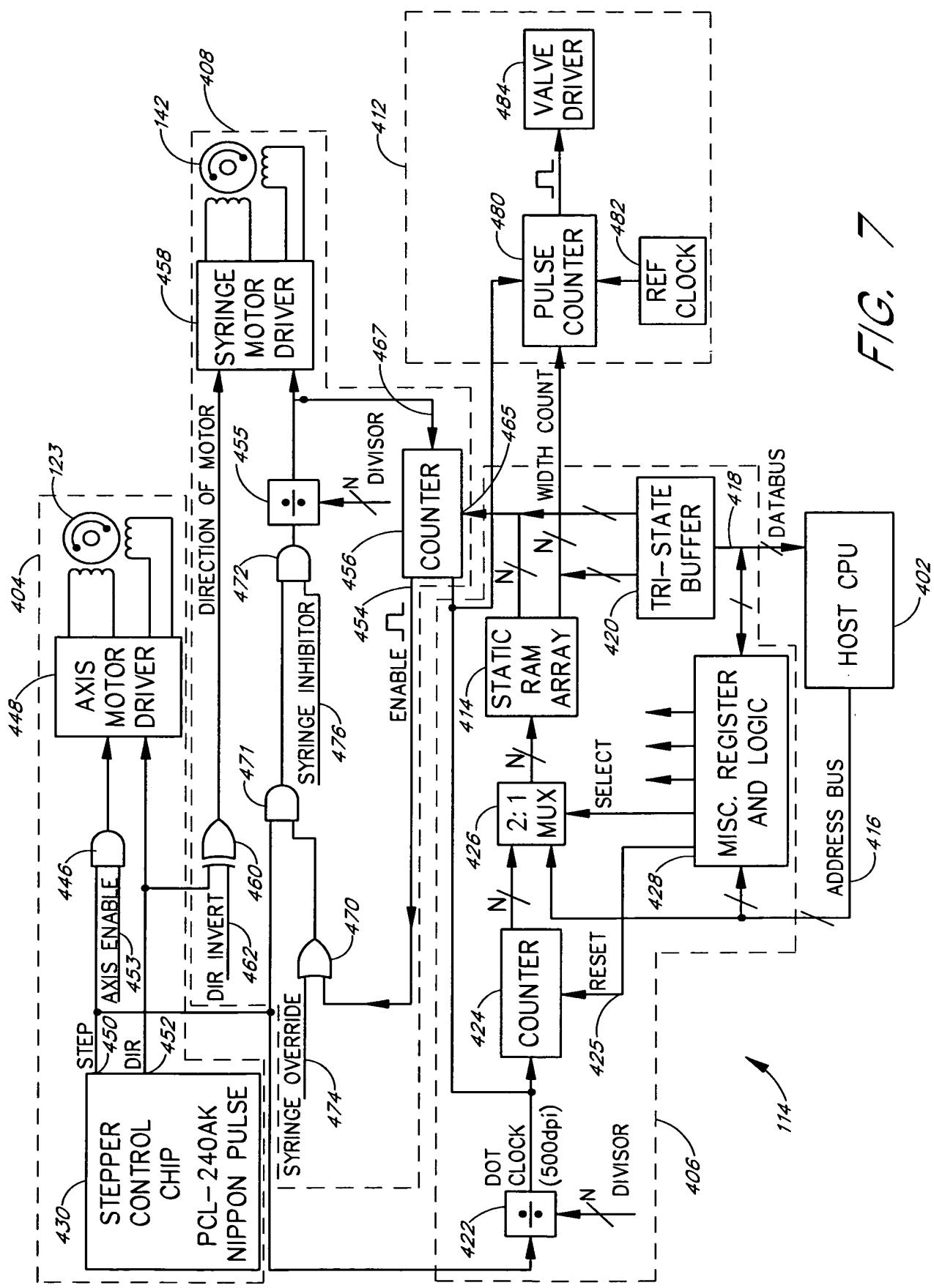


FIG. 7

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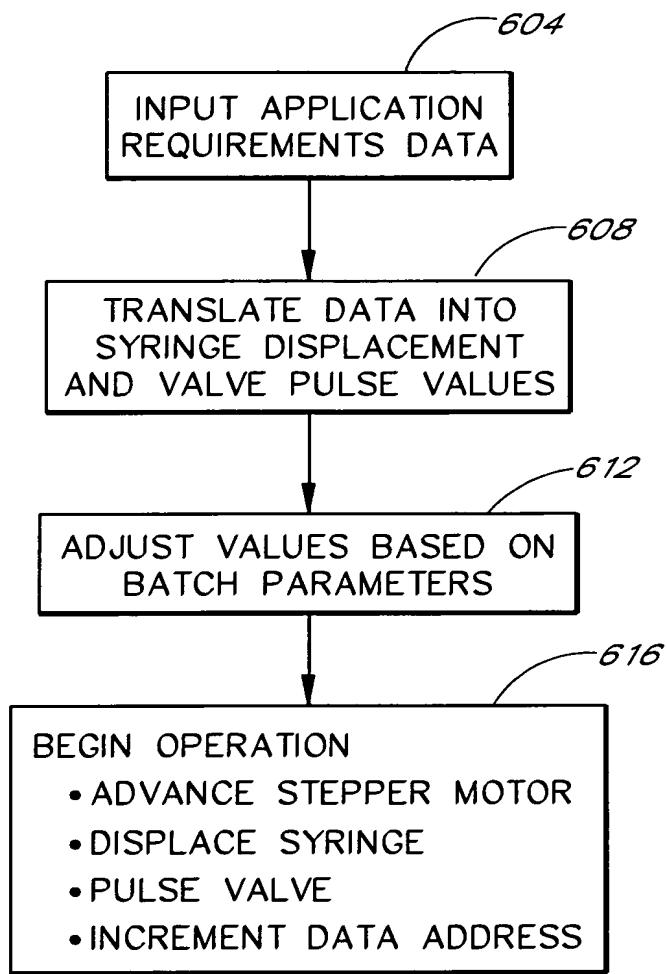


FIG. 8

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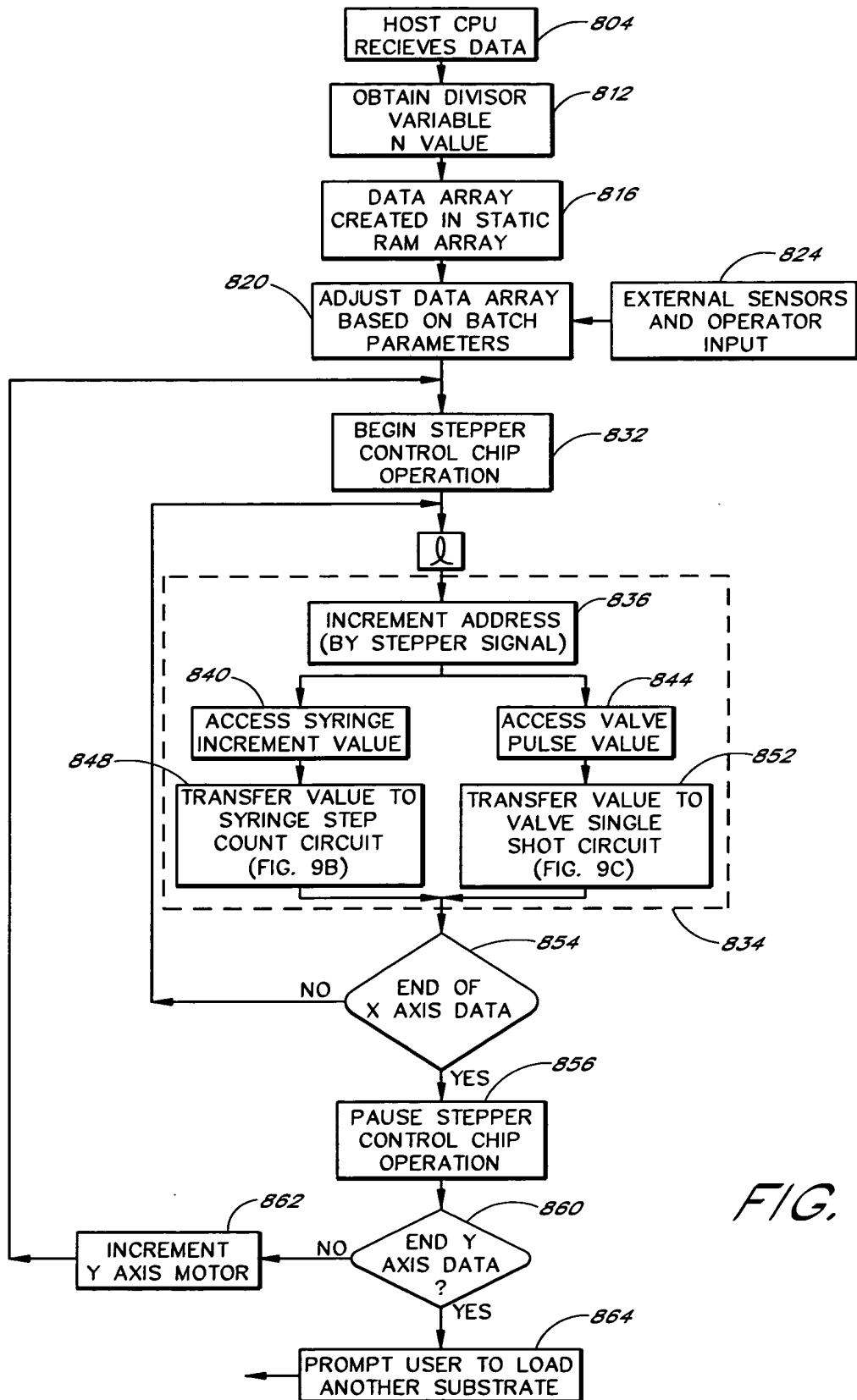


FIG. 9A

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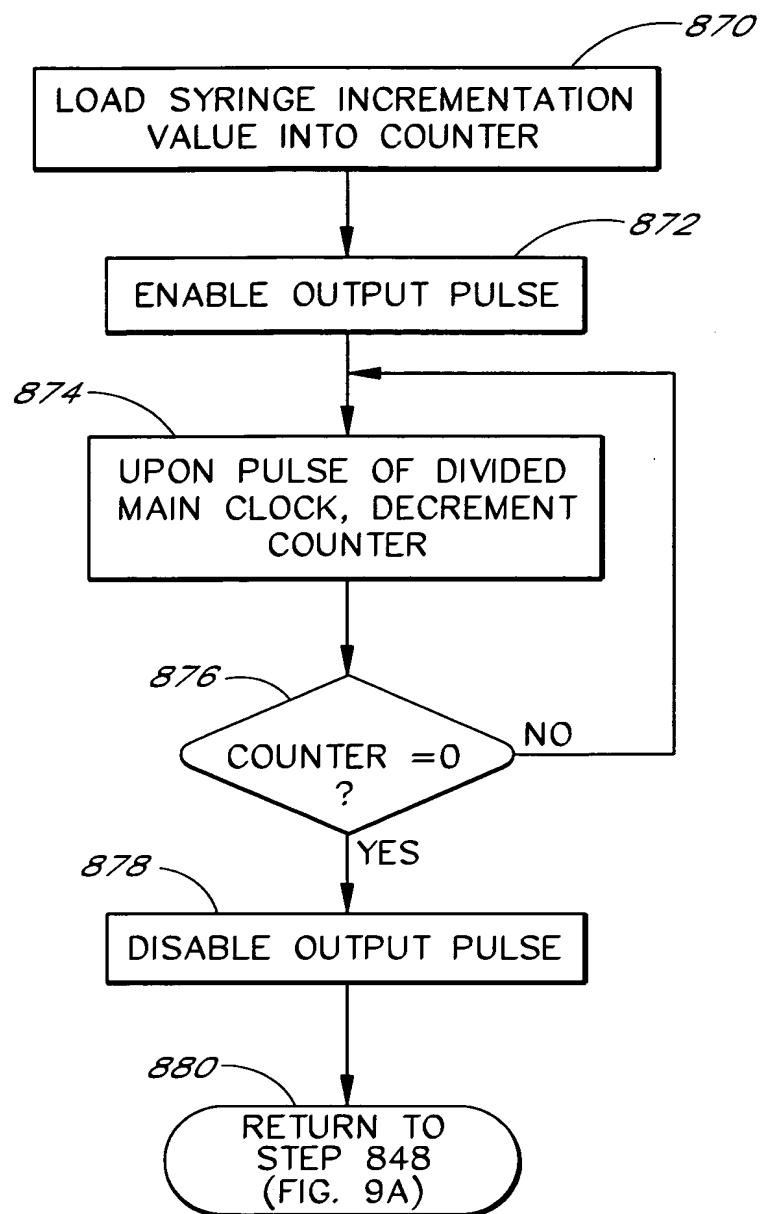


FIG. 9B

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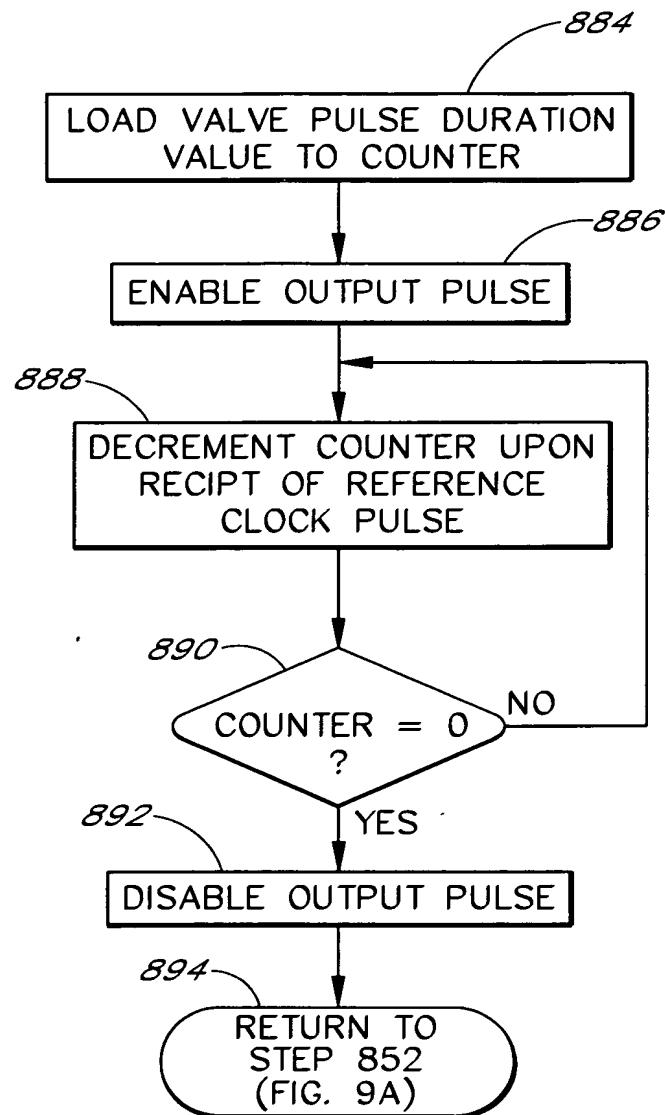


FIG. 9C

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PROGRAMMED LINE

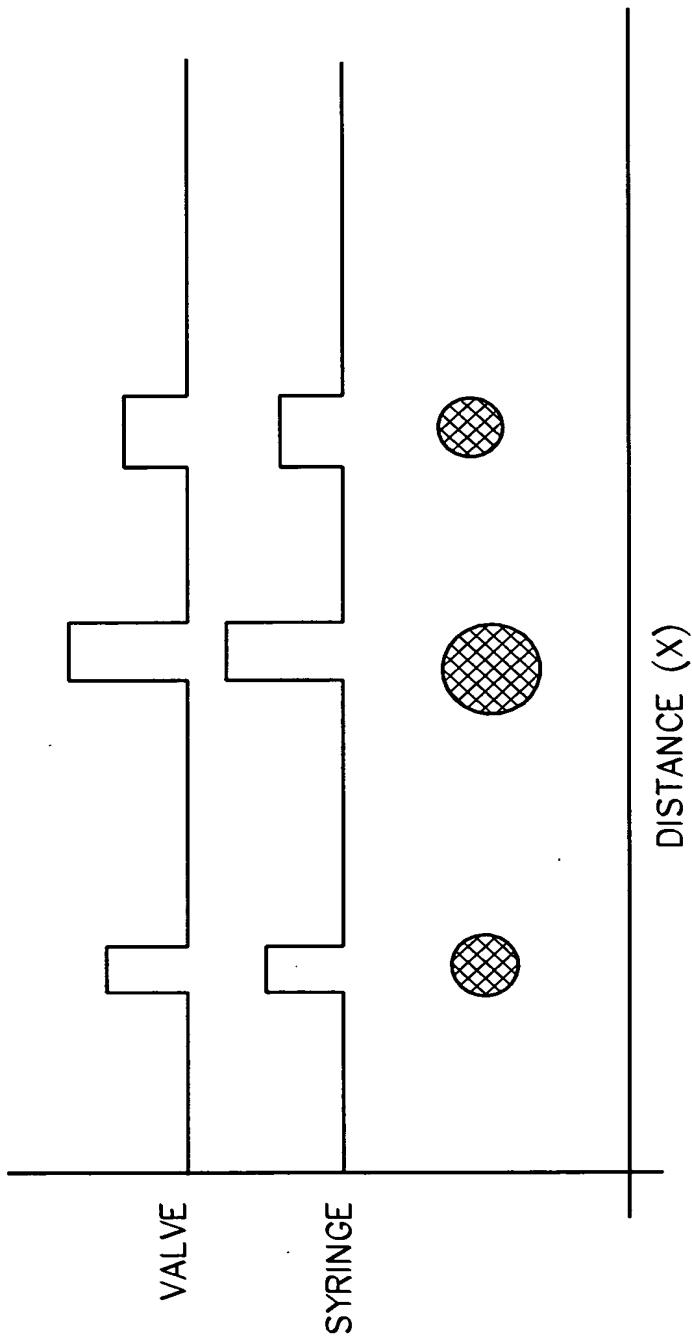
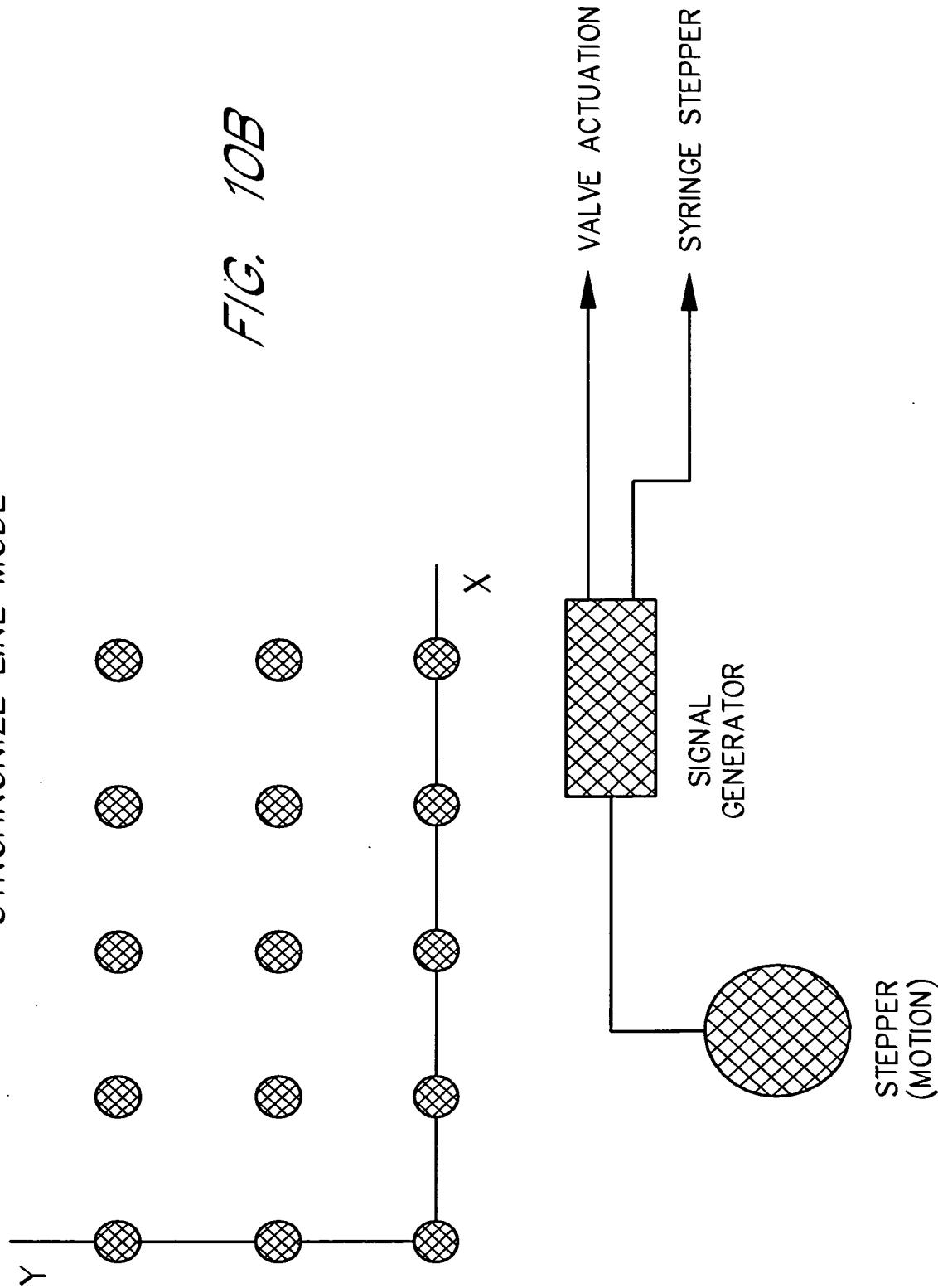


FIG. 10A

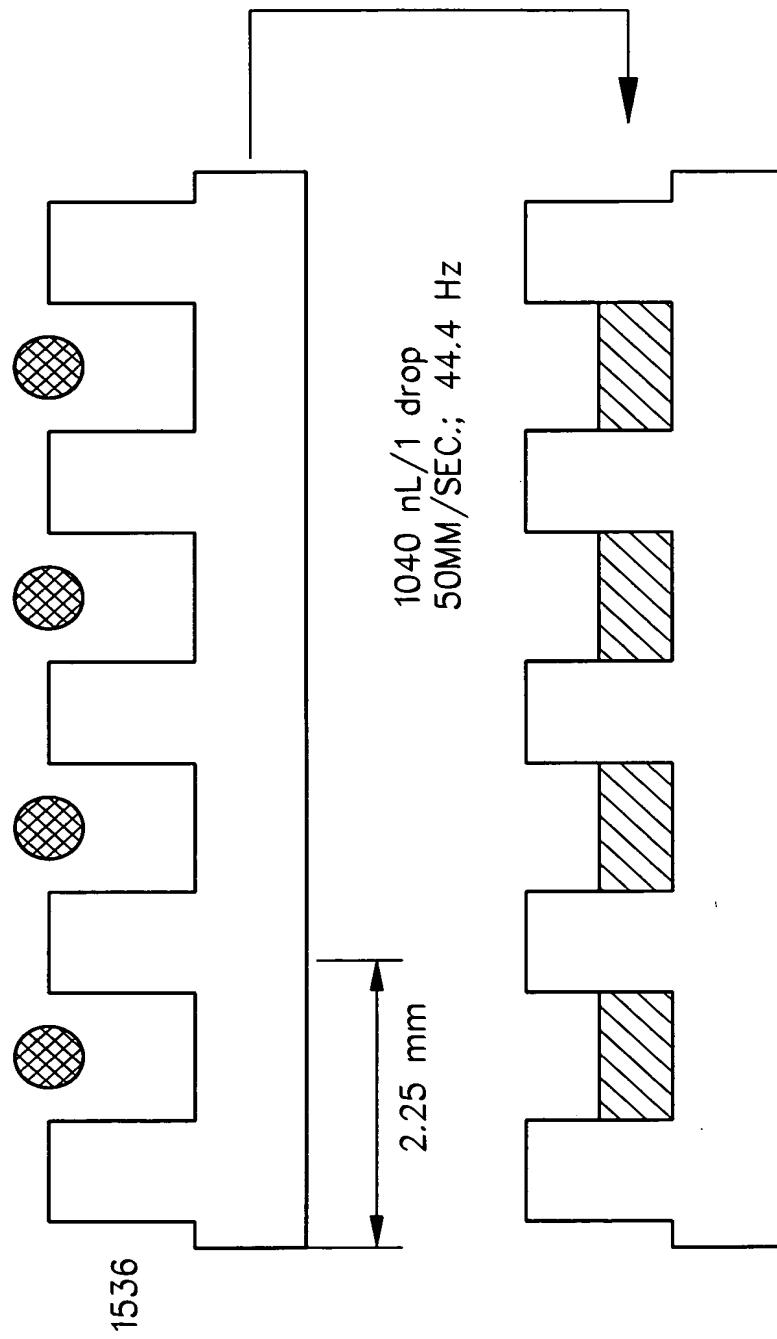
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SYNCHRONIZE LINE MODE

FIG. 10B



NORMAL MICROTITER PLATE (SYNCHRONIZED)



$$\text{FILL SPEED (4-up head)} \quad \frac{150 \text{ mm}}{50/\text{mm/sec.}} \times \frac{32}{4} = 24 \text{ seconds/plate}$$

FIG. 10C

MICRO WELL FILLING

VISION PLATES (NON SYNCHRONIZED)

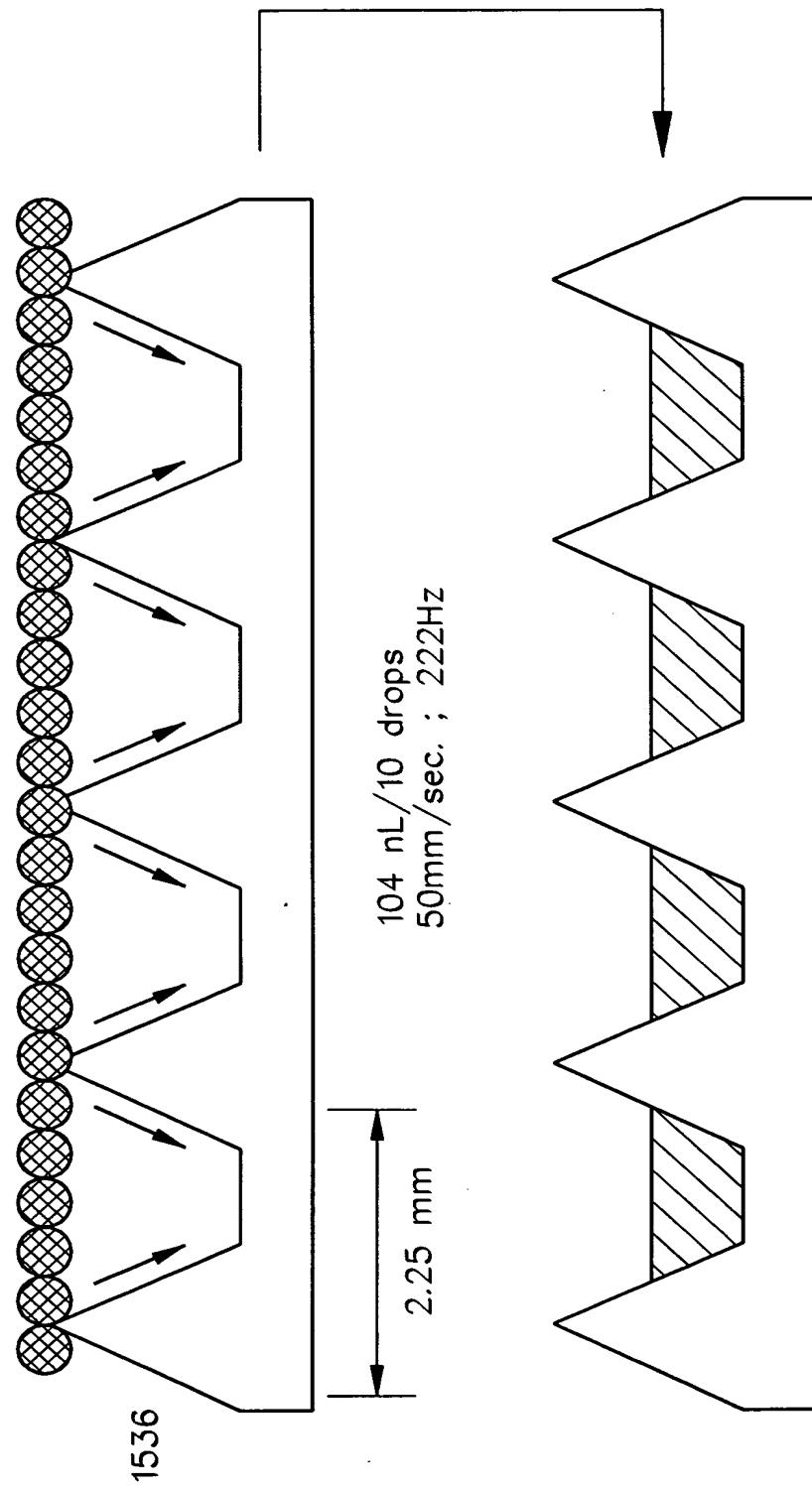


FIG. 10D

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MAPPING

nQUAD, LINE MODE:

1:1 TRANSFORMATION MTP ->ARRAY

PINS/nQUAD, DOT MODE:

9/4.5 mm OFF SETS MAINTAINED ON ARRAY

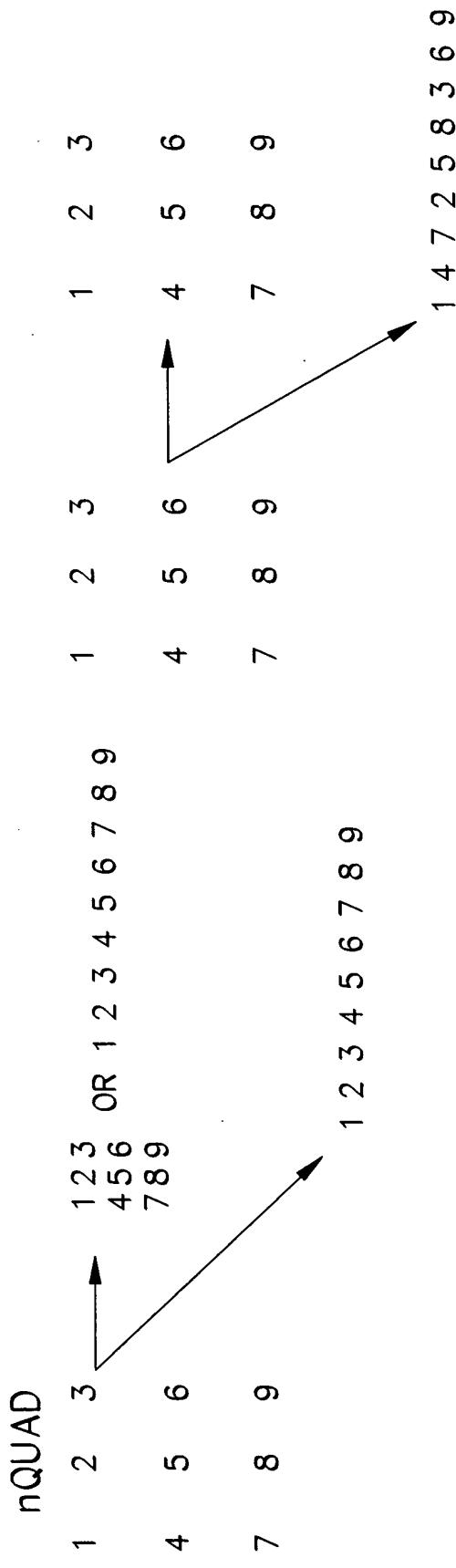


FIG. 10E

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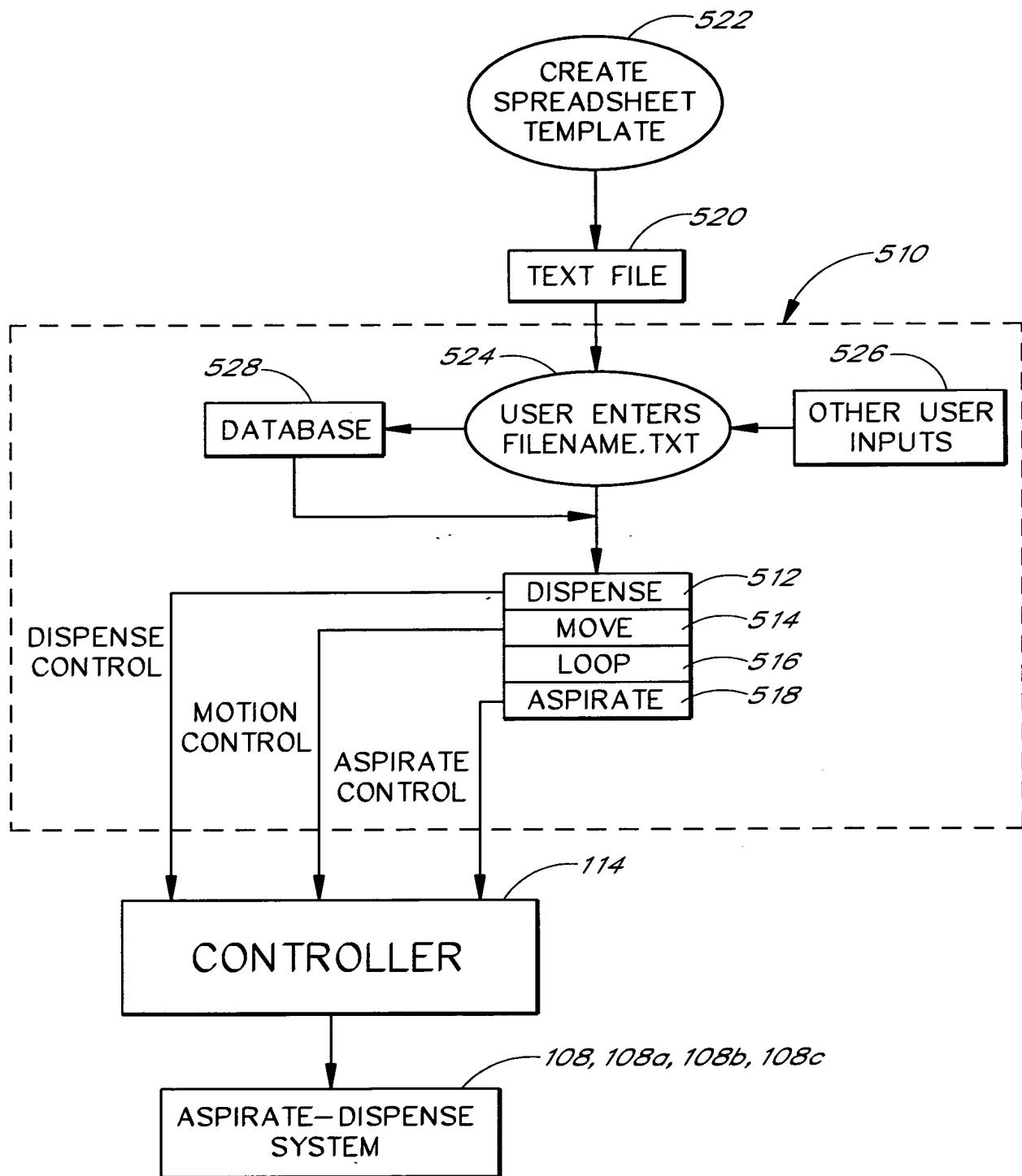


FIG. 11

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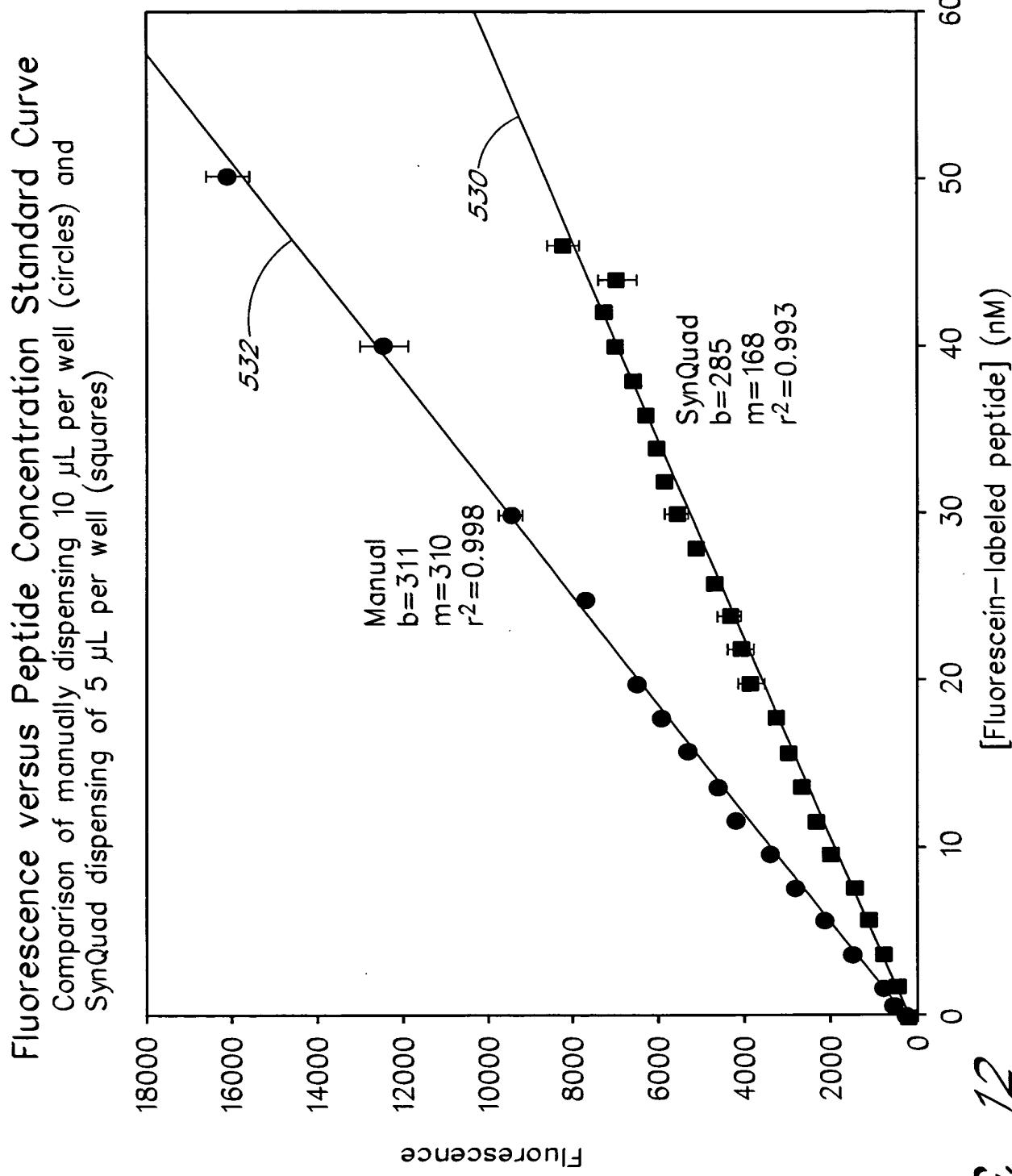


FIG. 12

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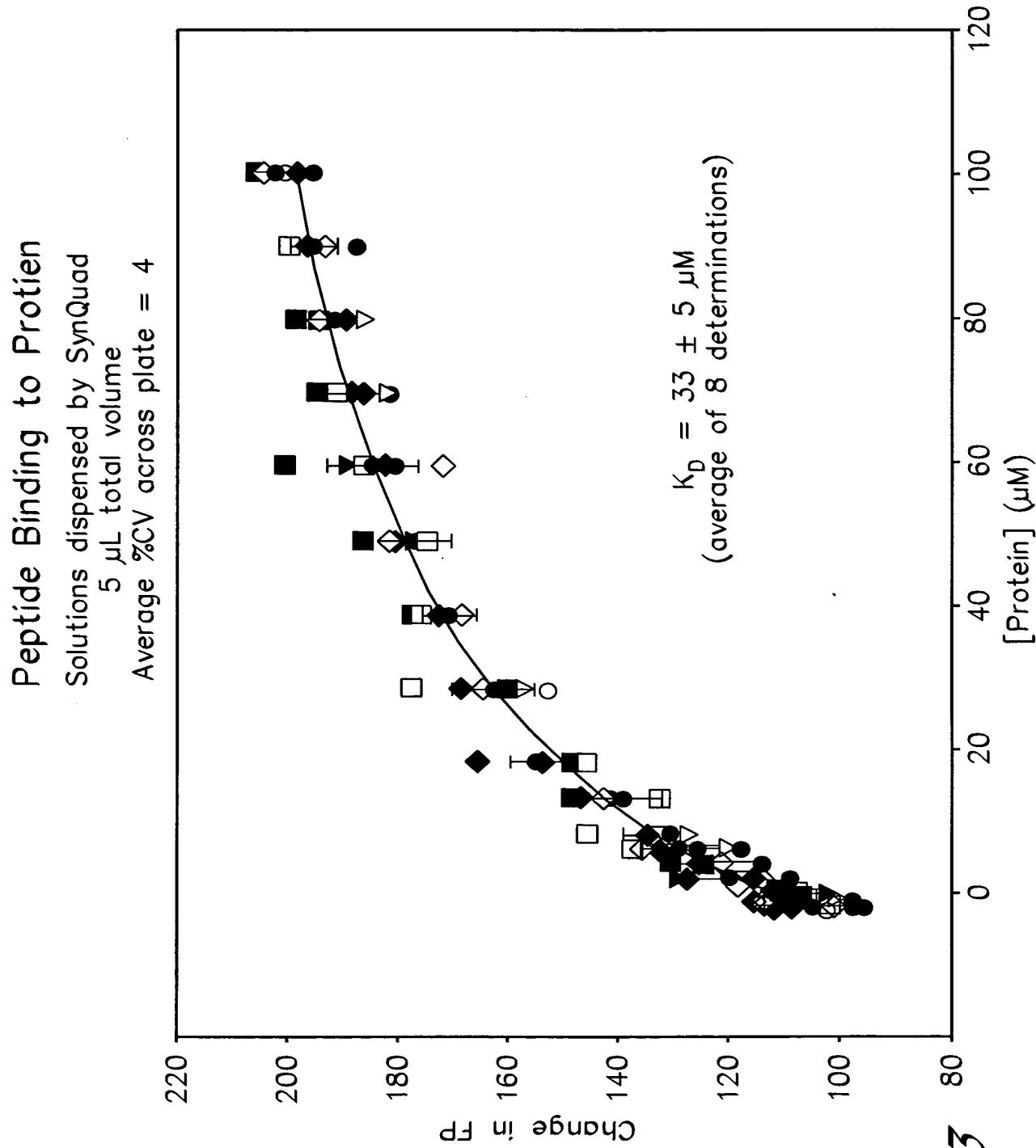
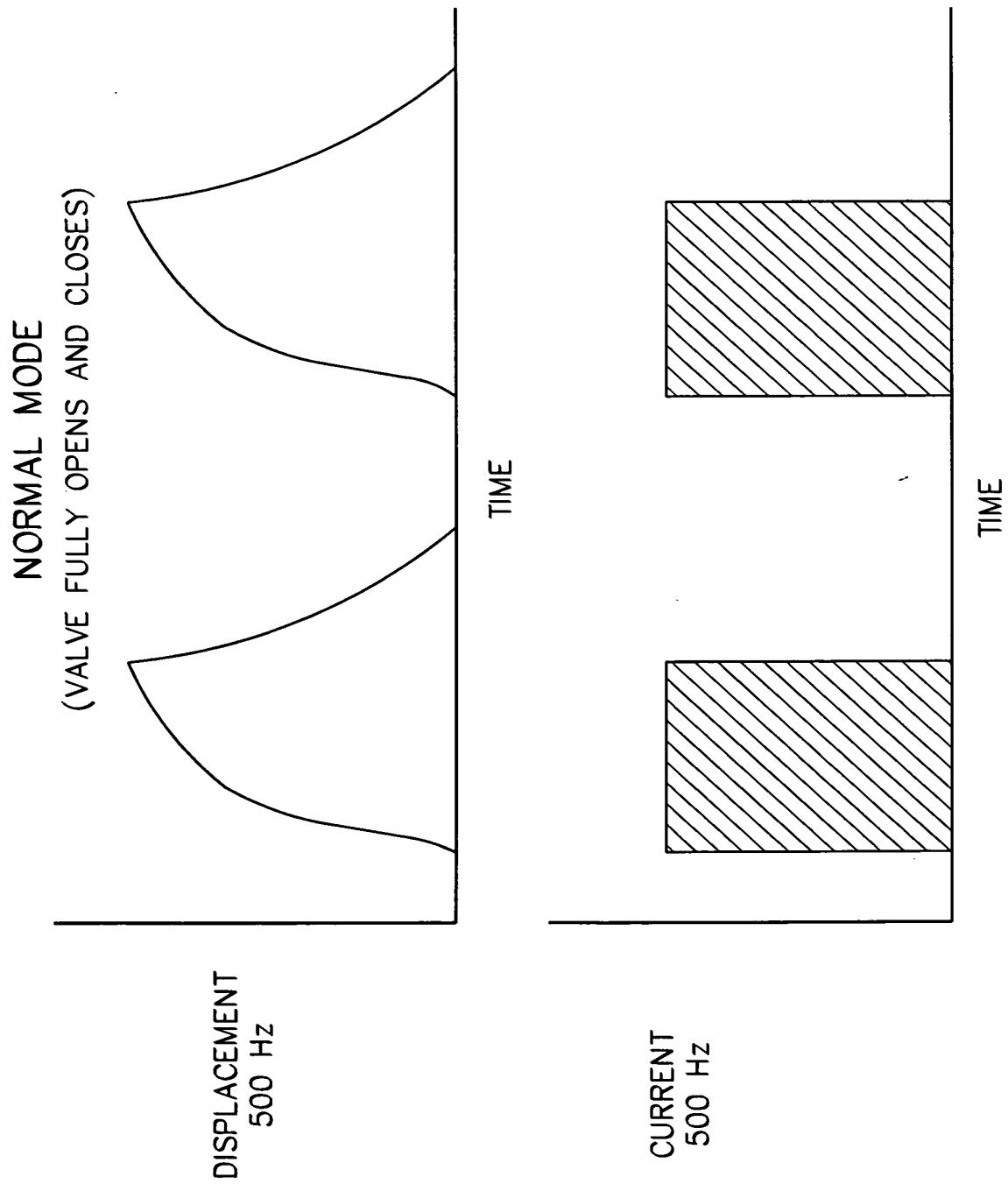
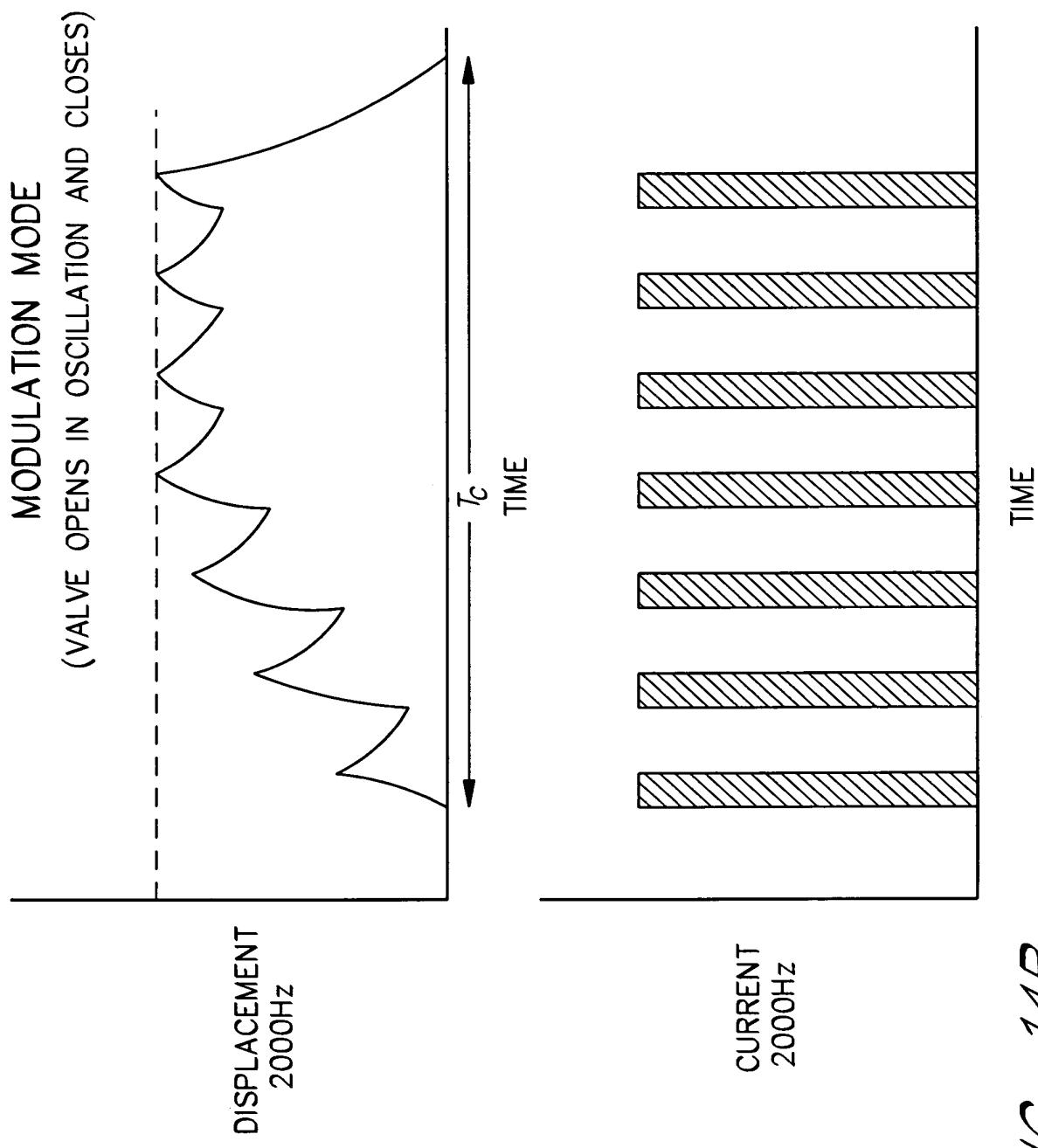


FIG. 13

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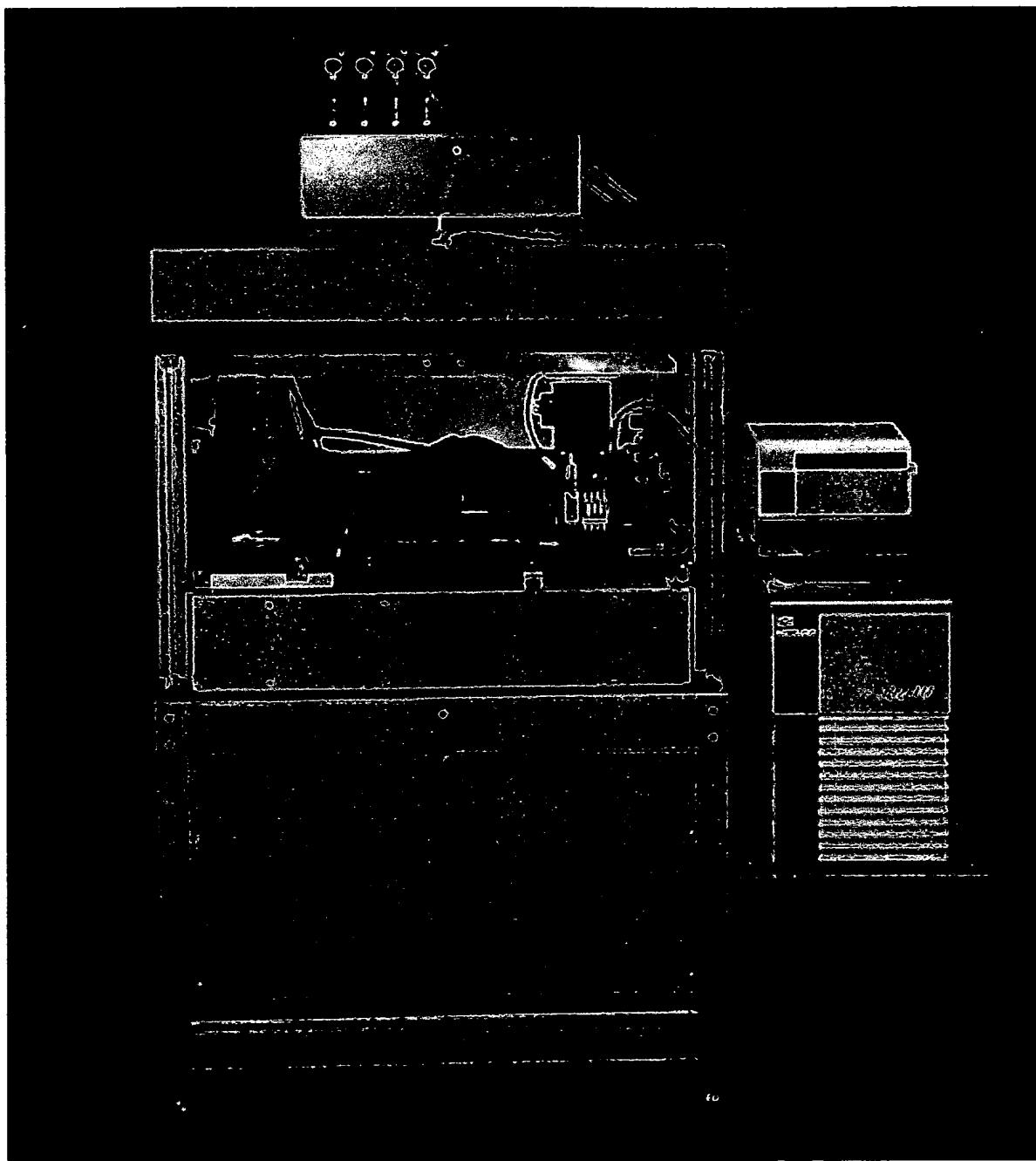


FIG. 15

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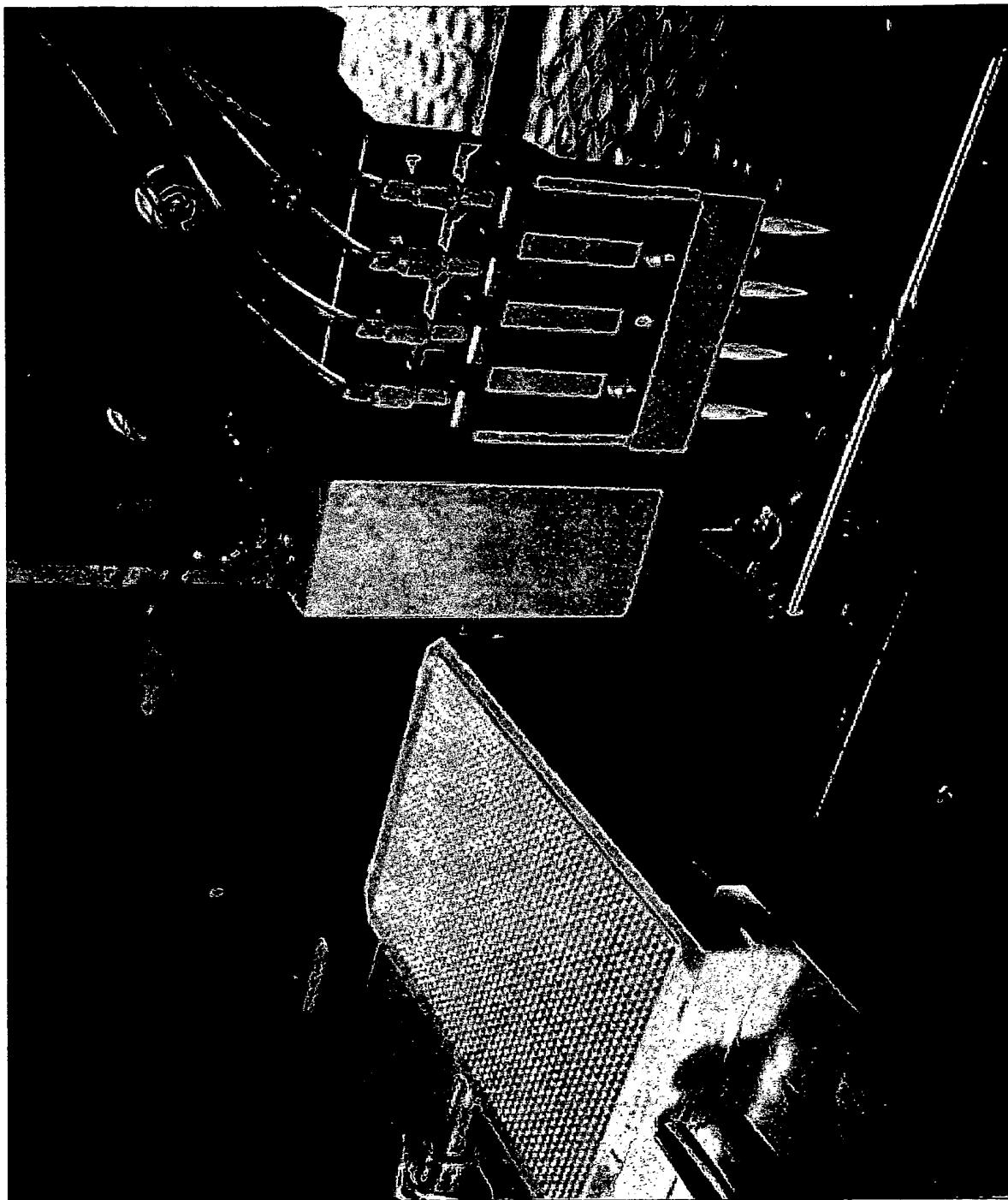


FIG. 16

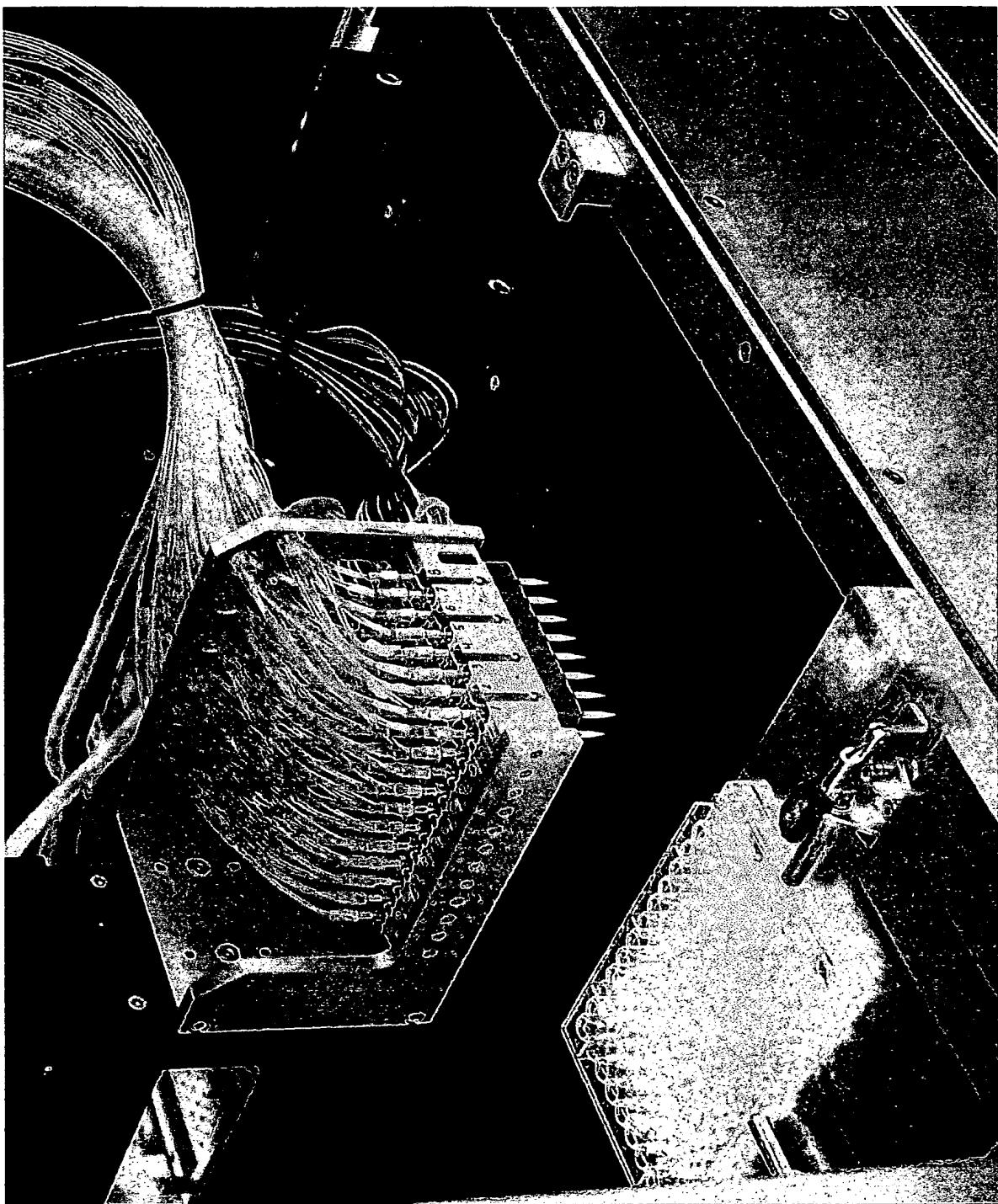


FIG. 17

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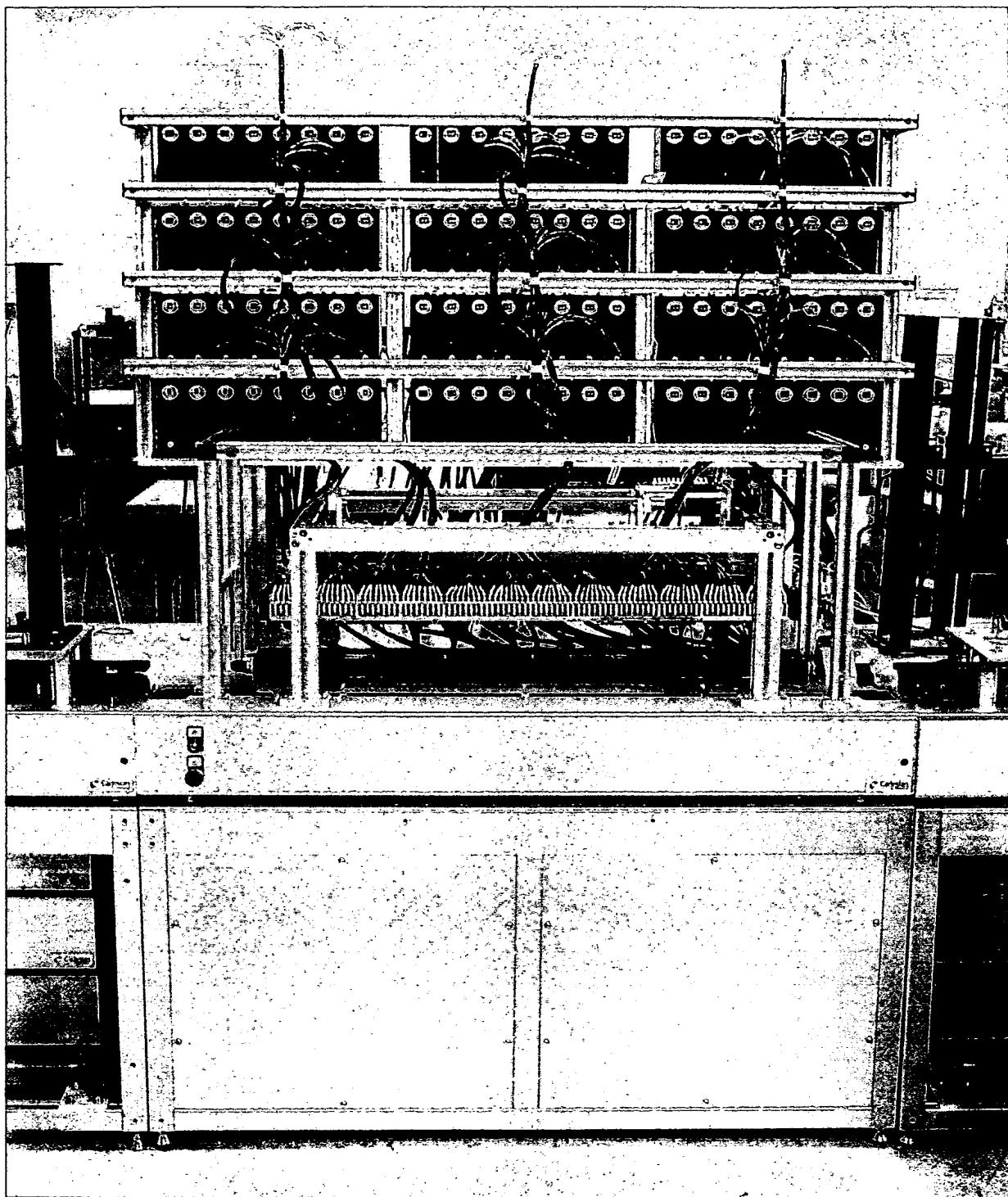


FIG. 18

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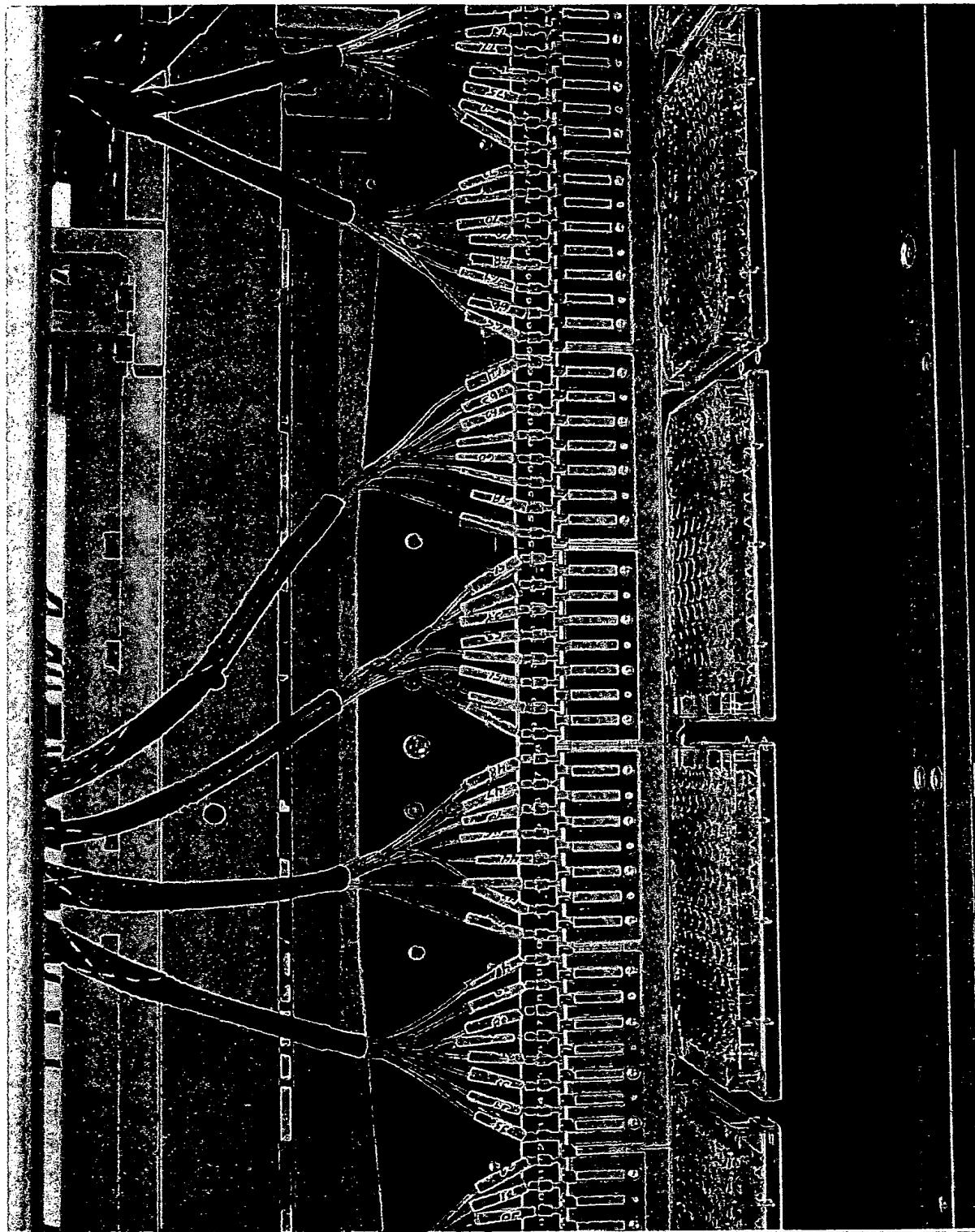


FIG. 19